

## STATEMENT OF BASIS

*for the issuance of Draft Air Permit # 378-AOP-RI*

**1. PERMITTING AUTHORITY:**

Arkansas Department of Environmental Quality  
8001 National Drive  
Post Office Box 8913  
Little Rock, Arkansas 72219-8913

**2. APPLICANT:**

Gates Rubber Company  
1801 North Lincoln  
Siloam Springs, Arkansas 72761

**3. PERMIT WRITER:**

Nancy Spencer Rogers

**4. PROCESS DESCRIPTION AND SIC CODE:**

SIC Description: Rubber Belt Manufacturer  
SIC Code: 3052

**5. SUBMITTALS:** February 28, 2001 and April 4, 2001

**6. REVIEWER'S NOTES:**

Gates Rubber Company of 1801 North Lincoln Street, Siloam Springs, Benton County, Arkansas manufactures rubber belts. Permit #378-AOP-R0 has been modified to allow the facility to increase the allowable throughput at the storage tank (SN-07) to 176,256 gallons of toluene. This increase debottlenecked the processes at SN's 03, 04 and 06; however, this higher throughput had already been permitted at SN's 03, 04 and 06 so there was no permitted increase at these sources. Also included in this modification is a minor modification which allowed the facility to move 2 belt grinders from SN-11 to SN-13. Additionally, Specific Condition number's 49 and 50 of the previous permit were deleted because they were unnecessary for compliance demonstration. The total permitted increase in emissions at this facility due to the modifications is negligible.

Calculations: The old copy of the confidential application for the original Title V was unavailable. It was difficult to verify exact numbers for the increases at SN's 03, 04 and 06. A comparison was done based upon the throughput at SN-08 and the number of toluene

batches. The modification was accepted since the estimated emissions were less than those currently permitted.

**7. COMPLIANCE STATUS:** The following summarizes the current compliance status of the facility including active/pending enforcement actions and recent compliance activities and issues.

The facility is in compliance at the time of the drafting of this permit.

**8. APPLICABLE REGULATIONS:**

**A. Applicability**

Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, et cetera) (Y/N)  N

Has this facility underwent PSD review in the past (Y/N)  N  Permit # \_\_\_\_\_

Is this facility categorized as a major source for PSD? (Y/N)  N

\$ 100 tpy and on the list of 28 (100 tpy)? (Y/N) \_\_\_\_\_

\$ 250 tpy all other (Y/N) \_\_\_\_\_

**B. PSD Netting**

Was netting performed to avoid PSD review in this permit? (Y/N)  N

If so, indicate increases and decreases used in netting for PSD purposes only.

Not Applicable

**C. Source and Pollutant Specific Regulatory Applicability**

Not Applicable

**9. EMISSION CHANGES:**

The following table summarizes plantwide emission changes associated with this permitting action.

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 378-AOP-R0	Air Permit 378-AOP-R1	Change
PM	50.6	50.6	---

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Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 378-AOP-R0	Air Permit 378-AOP-R1	Change
PM <sub>10</sub>	50.6	50.6	---
SO <sub>2</sub>	0.3	0.3	---
VOC	226.7	226.7	---
CO	14.4	14.4	---
NO <sub>x</sub>	56.4	56.4	---
Toluene	178.63	178.63	---
Carbon Disulfide	8.61	8.61	---
Tetrachloroethene	0.63	0.63	---
2-Chloro-1,3-Butadiene	0.36	0.36	---
bis(2-Ethylhexyl)phthalate	0.26	0.26	---
Methylene Chloride	7.43	7.43	---
Hexane	11.22	11.22	---
Propylene Oxide	0.14	0.14	---
1,3-Butadiene	0.13	0.13	---
Acetophenone	1.94	1.94	---
Acetaldehyde	0.06	0.06	---
Nickel	0.04	0.04	---
Phenol	0.05	0.05	---
Xylenes	0.25	0.25	---
Carbonyl Sulfide	1.01	1.01	---
Acrolein	0.03	0.03	---
2-Butanone	0.17	0.17	---
Naphthalene	0.05	0.05	---
Di-n-butylphthalate	0.04	0.04	---
Chromium	0.03	0.03	---
Methanol	0.60	0.60	---
MDI	20.62	20.62	---
Formaldehyde	0.60	0.60	---
4-Methyl-2-Pentanone	0.58	0.58	---
Benzene	0.07	0.07	---
Cumene	0.05	0.05	---

Plantwide Permitted Emissions (ton/yr)			
Pollutant	Air Permit 378-AOP-R0	Air Permit 378-AOP-R1	Change
Isooctane	0.04	0.04	---
Ethyl Benzene	0.03	0.03	---
Aniline	0.02	0.02	---
1,1,1-Trichloroethane	0.09	0.09	---
o-Toluidine	0.02	0.02	---
Styrene	0.01	0.01	---
Carbon Tetrachloride	0.01	0.01	---
Chloromethane	0.01	0.01	---
Biphenyl	0.01	0.01	---
Chloroprene	0.20	0.20	---

**10. MODELING:**

**A. Criteria Pollutants**

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

**11. Non-Criteria Pollutants**

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLVs) which would pass the *PAER or PAIL*. Therefore, modeling of specific non-criteria pollutants was not performed.

**1st Tier Screening (PAER)**

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The PAER was deemed by the Department to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Toluene	188	20.68	119.02	no

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Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Carbon Disulfide	31	3.41	13.80	no
Tetrachloroethene	170	18.7	1.02	yes
2-Chloro-1,3-Butadiene	36	3.96	0.20	yes
bis(2-Ethylhexyl)phthalate	5*	0.55	0.41	yes
Methylene Chloride	174	19.14	11.91	yes
Hexane	176	19.36	3.03	yes
Propylene Oxide	48	5.28	0.21	yes
1,3-Butadiene	4.4	0.484	0.20	yes
Acetophenone	49	5.39	3.09	yes
Acetaldehyde	45	4.95	0.12	yes
Nickel	1	0.11	0.01	yes
Phenol	19	2.09	0.09	yes
Xylenes	434	47.74	0.41	yes
Carbonyl Sulfide	14**	1.54	1.59	yes
Acrolein	0.23	0.0253	0.06	no
2-Butanone	590	64.9	0.27	yes
Naphthalene	52	5.72	0.06	yes
Di-n-butylphthalate	5	0.55	0.04	yes
Chromium	0.5	0.055	0.03	yes
Methanol	262	28.82	0.98	yes
MDI	0.01	0.0011	7.47	no
Formaldehyde	15***	1.65	2.30	no
4-Methyl-2-Pentanone	205	22.55	0.93	yes
Benzene	1.6	0.176	0.12	yes
Cumene	246	27.06	0.08	yes
Isooctane	350****	38.5	0.07	yes
Ethyl Benzene	434	47.74	0.05	yes
Aniline	7.6	0.836	0.03	yes
1,1,1-Trichloroethane	1910	210.1	0.16	yes
o-Toluidine	8.8	0.968	0.03	yes
Styrene	85	9.35	0.01	yes
Carbon Tetrachloride	31	3.41	0.01	yes

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Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11*TLV	Proposed lb/hr	Pass?
Chloromethane	103	11.33	0.01	yes
Biphenyl	1.3	0.143	0.01	yes
Chloroprene	36	3.96	0.39	yes

\*TLV taken from NTP Chemical Repository (Radian Corporation, August 29, 1991)

\*\*No TLV available. According to the chemical summary for Carbonyl Sulfide prepared by the Office of Pollution and Toxics, USEPA, August 1994, "it is likely that carbonyl sulfide is metabolized to hydrogen sulfide and carbon dioxide." TLV for hydrogen sulfide used.

\*\*\*Departmentally accepted concentration.

\*\*\*\*TLV taken from "Rapid Guide to Hazardous Air Pollutants"

### 2nd Tier Screening (PAIL)

SCREEN3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

Pollutant	(PAIL, µg/m <sup>3</sup> ) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m <sup>3</sup> )	Pass?
Toluene	1880	—*	no
Carbon Disulfide	310	535	no
Hexane	1760	1262	yes
Acrolein	2.3	0.66	yes
MDI	0.51	13.39	no
Formaldehyde	15	9.59	yes

\*This was modeled previously and did pass. It was not remodeled in this form after newer emission factors were found.

ISCST3 air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound was deemed by the Department to be one one-hundredth of the Threshold Limit Value, as listed by the ACGIH.

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Pollutant	(PAIL, $\mu\text{g}/\text{m}^3$ ) = 1/100 of Threshold Limit Value	Modeled Concentration ( $\mu\text{g}/\text{m}^3$ )	Pass?
Toluene	1880	1788.9	yes
Carbon Disulfide	310	298.5	yes
Hexane	17.6	1262	yes
Acrolein	2.3	0.66	yes
MDI	0.51	---	*yes
Formaldehyde	15	9.59	yes

10. CALCULATIONS:

SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
01	AP-42	Natural Gas (lb/10 <sup>6</sup> scf) PM/PM <sub>10</sub> , 13.7 SO <sub>2</sub> , 0.6 VOC, 2.8 CO, 35 NO <sub>x</sub> , 140 Fuel Oil (lb/10 <sup>6</sup> scf) PM/PM <sub>10</sub> , 2.0 SO <sub>2</sub> , 71 VOC, 0.2 CO, 5 NO <sub>x</sub> , 20	---	---	---
02	AP-42	Same as SN-01	---	---	---
03	Mass Balance		---	---	Assumes 1% loss
04	Mass Balance		---	---	Assumes 1% loss
05	Mass Balance		---	---	Assumes 2% loss
06	AP-42 and Mass Balance	Natural Gas (lb/10 <sup>6</sup> scf) PM/PM <sub>10</sub> , 13.7 SO <sub>2</sub> , 0.6 VOC, 2.8 CO, 35 NO <sub>x</sub> , 140	Catalytic Incinerator/ Pre-Burner Process Blower	81% (90% control) (90% capture)	---
07	Tanks Program		---	---	---

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SN	Emission Factor Source (AP-42, Testing, etc)	Emission Factor and units (lbs/ton, lbs/hr, etc)	Control Equipment Type (if any)	Control Equipment Efficiency	Comments (Emission factor controlled/uncontrolled, etc)
08	Mass Balance		---	---	---
09	Testing and RMA factors*		---	---	---
10	RMA factors*		---	---	---
11	RMA factors*		10 cyclones 10 ESPs	99%	---
12	RMA factors*		8 cyclones 8 ESPs	99%	---
13	RMA factors*		5 cyclones 5 ESPs	99%	---

\*RMA factors are attached.

#### 11. TESTING REQUIREMENTS:

This permit requires stack testing of the following sources.

SN(s)	Pollutant	Test Method	Test Interval	Justification For Test Requirement
06	VOC	25A	every 5 years	Department Guidance

#### 12. MONITORING OR CEMS

The following are parameters that must be monitored with CEMs or other monitoring equipment (temperature, pressure differential, etc), frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

Not Applicable



**13. RECORD KEEPING REQUIREMENTS**

The following are items (such as throughput, fuel usage, VOC content of coating, etc) that must be tracked and recorded, frequency of recording and whether records are needed to be included in any annual, semiannual or other reports.

SN	Recorded Item	Limit (as established in permit)	Frequency*	Report (Y/N)**
01, 02	fuel oil throughput	869,760 gallons per year	monthly	n
03	# of batches	2 batches per day	weekly	n
03-13	VOC emission	Table amount	monthly	n
03-13	HAP Emissions	Table amount	monthly	n
06	VOC emission	Table amount	monthly	n
11-13	rubber throughput	26,290,000 lbs per year	monthly	n

\* Indicate frequency of recording required for the item (Continuously, hourly, daily, etc.)

\*\* Indicates whether the item needs to be included in reports

**14. OPACITY**

SN	Opacity %	Justification (NSPS limit, Dept. Guidance, etc)	Compliance Mechanism (daily observation, weekly, control equipment operation, etc)
01, 02	5% 10%	burning natural gas burning fuel oil	weekly
06	5%	burning natural gas	weekly

**15. DELETED CONDITIONS:**

The following Specific Conditions were included in the previous permit, but deleted for the current permitting action.

Former SC	Justification for removal
49, 50	The facility already had other limits which limited this source.

**16. VOIDED, SUPERSEDED OR SUBSUMED PERMITS**

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List all active permits for this facility which are voided/superseded/subsumed by issuance of this permit.

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**17. CONCURRENCE BY:**

The following supervisor concurs with the permitting decision:

\_\_\_\_\_  
*Thomas Rheume, P.E.*